

**DEPARTMENT OF TRANSPORTATION**

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



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Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 69.28**WELDING INSPECTION REPORT****Resident Engineer:** Pursell, Gary**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-000549**Date Inspected:** 01-Oct-2007**Project Name:** SAS Superstructure**OSM Arrival Time:** 630**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1530**Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **Location:** Shanghai, China**CWI Name:** Ye Yongjun & Lu Jianping**CWI Present:** Yes No**Inspected CWI report:** Yes No N/A**Rod Oven in Use:** Yes No N/A**Electrode to specification:** Yes No N/A**Weld Procedures Followed:** Yes No N/A**Qualified Welders:** Yes No N/A**Verified Joint Fit-up:** Yes No N/A**Approved Drawings:** Yes No N/A**Approved WPS:** Yes No N/A**Delayed / Cancelled:** Yes No N/A**Bridge No:** 34-0006**Component:** Mock Up**Summary of Items Observed:**

Elevation 77:

Caltrans Quality Assurance (QA) Inspector Charlie Franco was present at the time requested to randomly observe welding being performed for the fabrication of the Mock Up at elevation 77. The QA Inspector randomly observed ZPMC qualified welders Zhai Qingshen and Yang Lei utilizing the Shielded Metal Arc Welding (SMAW) process to weld 2nd time repairs on 5 excavations in WJ number 3, attaching longitudinal stiffener mp2-2 to Skin Plate A, Sub-Assembly (SA) MUSA-MA2. Mr. Zhai and Mr. Yang were utilizing ZPMC Weld Procedure Specification (WPS) WPS-345-SMAW-1G(1F)-Repair. The QA Inspector observed ZPMC CWI Ye Yongjun monitoring weld parameters. The QA Inspector also performed random verification of the weld parameters and documented them as follows: welding amperage 228 amps, welding voltage 27 volts with a travel speed of 190 millimeters per minute for Mr. Yang and 226 amps, 27 volts with a travel speed of 187 millimeters per minute for Mr. Zhai. Weld parameters appeared to comply with the above approved ZPMC WPS.

Elevation 114:

The QA Inspector randomly observed ZPMC Non Destructive Testing (NDT) Technician Zhou Dongyun, utilizing the Magnetic Particle Testing Method (MT) to examine 100% of the full length of excavations on the outside of Complete Joint Penetration (CJP) Welds, Weld Joint (WJ) numbers 11A and 14B, attaching longitudinal stiffeners piece marks MP1004-3 and MP1007 to Skin Plate D Upper, SA MUSC-MA113, prior to performing first time weld repairs. The QA Inspector also performed 100% MT verification examination of the same excavations. There appeared to be no indications. The following photographs provide additional detail.

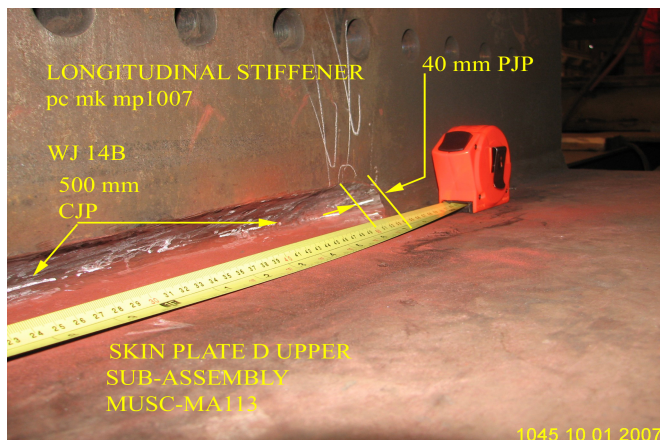
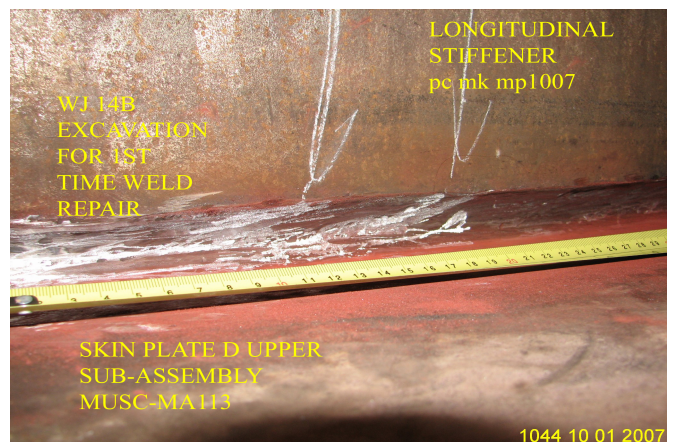
# WELDING INSPECTION REPORT

( Continued Page 2 of 3 )

Caltrans Quality Assurance (QA) Inspector Charlie Franco randomly observed welding being performed for the fabrication of the Mock Up at elevation 114. The QA Inspector randomly observed ZPMC qualified welder Chang Chuancang utilizing the Flux Cored Arc Welding (FCAW) process to perform a first time weld repair on inside of WJ number 7 attaching longitudinal stiffener piece mark mp1013 of Skin Plate E Upper, to SA MUSC-MA 109. Mr. Chang was utilizing ZPMC approved WPS WPS-345-FCAW-2G(2F)-Repair. The QA Inspector observed ZPMC CWI Lu Jianping monitoring weld parameters. The QA Inspector also performed random verification of the weld parameters and documented them as follows: welding amperage 300 amps, welding voltage 30 volts with a travel speed of 315 millimeters per minute. Weld parameters appeared to comply with the above approved ZPMC WPS.

The QA Inspector observed a ZPMC arc gouger utilizing the Carbon Air Arc Gouging (CAAG) process to excavate an area at the end of WJ number 7 prior to a first time weld repair. WJ number 7 attaches longitudinal stiffener piece mark number mp1002-2 of Skin Plate A Upper, to SA MUSC-MA106. The following photograph provides additional detail.

The QA Inspector observed a ZPMC arc gouger utilizing the CAAG process to excavate an area at the end of WJ number 2, prior to a first time weld repair. WJ number 7 attaches longitudinal stiffener piece mark number mp1010 of Skin Plate E Lower, to SA MUSC-MA108.



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## WELDING INSPECTION REPORT

( Continued Page 3 of 3 )

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### Summary of Conversations:

There were no relevant conversations.

### Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Mazen Wahbeh, (818) 292-0659, who represents the Office of Structural Materials for your project.

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<b>Inspected By:</b>	Franco,Charlie	Quality Assurance Inspector
<b>Reviewed By:</b>	Cochran,Jim	QA Reviewer

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